IN THE CLAIMS

Amend the claims as follows.

1. (Amended) A method for purifying plasmid DNA from a mixture of same containing at least one host cell impurity comprising the following steps:

(a) forming a solution by adding sufficient salt to said mixture to allow selective binding of said at least one host cell impurity to a hydrophobic interaction media;

(b) contacting said solution containing plasmid DNA with said hydrophobic interaction media under conditions that said at least one impurity binds to the hydrophobic interaction media to form a complex; and

(c) collecting unbound plasmid DNA from said complex;

wherein said method is conducted in the absence of non-aqueous solvents, detergents, glycols, hexamine cobalt, spermidine, and polyvinylpyrollidone.

5. (Amended) The method of claim 4 wherein the salt is ammonium sulfate in a concentration range of about 2M to 4M.

7. (Amended) The method of claim 1 wherein the solution comprises sodium salts in a concentration range of about 2M to 4M.

14. (Amended) The method of claim 12 wherein the hydrophobic interaction media are selected from the group consisting of a methacrylate polymer or copolymer backbone bound to a least one of a propyl, butyl, hexyl, octyl, nonyl or decyl ligand.

16. (Amended) The method of claim 12 wherein the support is in the form of bead in the size range of 15 to 100 μm.

17. (Amended) A method of separating supercoiled plasmid DNA from a mixture of supercoiled plasmid DNA and relaxed plasmid DNA and, optionally, at least one host cell impurity comprising the following steps:

(a) forming a solution by adding a salt to the mixture of supercoiled plasmid DNA and relaxed plasmid DNA and, when present, said at least one host cell impurity;

(b) contacting the solution with a hydrophobic interaction media under a first condition where both the supercoiled plasmid DNA and relaxed plasmid DNA bind to the hydrophobic interaction media to form a bound first mixture;

(c) altering the first condition surrounding the bound first mixture to a second condition to remove relaxed plasmid DNA from the bound first mixture to form separate components containing a second bound mixture and relaxed plasmid DNA; and

(d) modifying the second condition surrounding the said second bound mixture to a third condition to remove supercoiled plasmid DNA from said second bound mixture to form separate components containing hydrophobic interaction media and supercoiled plasmid DNA.

27. (Amended) The method of claim 17 wherein the first condition comprises equilbrating said media with a salt solution containing ammonium sulfate which is present in a concentration range of about 2.5M to 4M.

28. (Amended) The method of claim 17 wherein the second condition comprises washing the media with a salt solution containing ammonium sulfate in a concentration of about 2.35M to about 2.45M.

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29. (Amended) The method of claim 17 wherein the said third condition comprises washing said second bound mixture with a salt solution containing ammonium sulfate in a concentration of about 1M to 2.3M.

41. (Amended) A method of separating supercoiled plasmid DNA from relaxed plasmid DNA comprising contacting a mixture of supercoiled plasmid DNA and relaxed plasmid DNA with a hydrophobic interaction media under a first condition where both the supercoiled plasmid DNA and the relaxed plasmid DNA bind to said hydrophobic interaction media to form a bound first mixture, altering said first condition surrounding the bound first mixture to a second condition to remove said relaxed plasmid DNA from said bound first mixture to form separate components containing a second bound mixture and said relaxed plasmid DNA, and modifying the second condition surrounding said second bound mixture to a third condition to remove said supercoiled plasmid DNA from said second bound mixture to form separate components containing said hydrophobic interaction media and said supercoiled plasmid DNA.

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46. (Amended) The method of claim 41 wherein said support is in the form of beads ranging in size from 35 to 100 μm.

47. (Amended) The method of claim 41 wherein said first condition comprises equilibrating said media with a salt solution containing ammonium sulfate in a concentration range of about 2.5 M to about 4 M.

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48. (Amended) The method of claim 47 wherein said second condition comprises washing said bound first mixture with a salt solution containing ammonium sulfate in a concentration of about 2.35 M to about 2.45 M.

49. (Amended) The method of claim 48 wherein said third condition comprises washing said second bound mixture with a salt solution containing ammonium sulfate in a concentration of about 1 M to about 2.3M.

52. (Amended) A method for the enriching supercoiled DNA relative to relaxed DNA in a mixture thereof, the method comprising:

(1) interacting a mixture containing supercoiled DNA and relaxed DNA with a hydrophobic interactive media comprising an alkyl moiety under ionic conditions wherein the supercoiled DNA preferentially binds to the hydrophobic interactive media;

(2) treating the hydrophobic interactive media, relaxed DNA and supercoiled DNA under ionic conditions that allow the preferential removal of the relaxed DNA; and

(3) eluting the supercoiled DNA from the hydrophobic interactive media.

53. (Amended) A method for removing lipopolysaccharide (LPS) from a composition containing DNA, the method comprising:

(1) interacting a mixture comprising the DNA and LPS with a hydrophobic interactive media comprising an alkyl moiety, wherein the interacting is under ionic conditions where the LPS preferentially binds to the hydrophobic interactive media relative to the DNA; and

(2) treating the hydrophobic interactive media containing the DNA and LPS with ionic conditions that allow the selective removal of the DNA.

REMARKS

Reconsideration is requested.